Sequence Listing

<110> Botstein,David
Desnoyers,Luc
Ferrara,Napoleone
Fong,Sherman
Gao,Wei-Qiang
Goddard,Audrey
Gurney,Austin L.
Pan,James
Roy,Margaret Ann
Stewart,Timothy A.
Tumas,Daniel
Watanabe,Colin K.
Wood,William I.

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Lys Thr Leu Asp Ile Asn Val Lys Ala Pro Ala Leu Met Thr Lys
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Pro Tyr Asn Val Ser Lys Thr Ala Leu Leu Gly Leu Thr Lys Thr
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215 220 225

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Arg Leu Gly Glu Pro Glu Asp Cys Ala Gly Ile Val Ser Phe Leu
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35 40 45

Phe Val Pro Arg Pro His Thr Ala Pro Leu Gly Gly Ala His Ala
50 55 60

His Val Leu Gly Met Val Pro Pro Ala Cys Leu Pro Gly Asp Glu
65 70 75

Val Gly Ser Glu Gln Arg Gly Glu Gln Val Thr Asn Gly Arg Glu
80 85 90

Ala Gly Ala Glu Leu Leu Thr Glu Val Asn Arg Leu Gly Ser Gly
95 100 105

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110 115 120

Arg Arg Thr Leu His Leu Arg Arg Asn Arg Ile Ser Asn Cys Ser
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Leu Glu Gly Lys Glu Leu Gln Asp Ala Gly Glu Arg Ser Arg Leu
260 265 270

Gln Glu Phe Arg Arg Arg Val Ala Ala Ala Gln Ser Gln Val Gln
275 280 285

Val Leu Lys Glu Lys Lys Gln Ala Thr Glu Arg Leu Val Ser Leu
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Ser Ala Gln Ser Glu Lys Arg Leu Gln Glu Leu Glu Arg Asn Val
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Gln Leu Met Arg Gln Gln Gln Gly Gln Leu Gln Arg Arg Leu Arg
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Glu Glu Thr Glu Gln Lys Arg Arg Leu Glu Ala Glu Met Ser Lys
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Arg Gln His Arg Val Lys Glu Leu Glu Leu Lys His Glu Gln Gln
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Glu Thr Arg Asp Leu Val His Ala Pro Leu Pro Leu Thr Trp Lys
755 760 765

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Val Gly Glu Ala Gly Leu Pro Trp Asn Phe Gly Pro Leu Ser Lys
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Lys Ile Tyr Asn Pro Ser Glu Gln Cys Cys Tyr Asp Asp Ala Ile
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Leu Ser Leu Lys Glu Thr Arg Arg Cys Gly Ser Thr Cys Thr Phe
65 70 75

Trp Pro Cys Phe Glu Leu Cys Cys Pro Glu Ser Phe Gly Pro Gln
80 85 90

Gln Lys Phe Leu Val Lys Leu Arg Val Leu Gly Met Lys Ser Gln
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His Val Leu Tyr Pro
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Glu Leu Gly Arg Pro Ala Arg Asp Glu Gly Gly Ser Gly Arg Asp
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Trp Lys Ser Lys Ser Gly Arg Gly Leu Ala Gly Arg Glu Pro Trp
             80                  85                  90

Ser Lys Leu Lys Gln Ala Trp Val Ser Gln Gly Gly Gly Ala Lys
             95                 100                 105

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Glu Ala Leu Ala Ala Ala Ala Gln Asp Ala Ile Gly Pro Glu Leu
            125                 130                 135

Ala Pro Thr Pro Glu Pro Pro Glu Glu Tyr Val Tyr Pro Asp Tyr
            140                 145                 150

Arg Gly Lys Gly Cys Val Asp Glu Ser Gly Phe Val Tyr Ala Ile
            155                 160                 165

Gly Glu Lys Phe Ala Pro Gly Pro Ser Ala Cys Pro Cys Leu Cys
            170                 175                 180

Thr Glu Glu Gly Pro Leu Cys Ala Gln Pro Glu Cys Pro Arg Leu
            185                 190                 195

His Pro Arg Cys Ile His Val Asp Thr Ser Gln Cys Cys Pro Gln
            200                 205                 210

Cys Lys Glu Arg Lys Asn Tyr Cys Glu Phe Arg Gly Lys Thr Tyr
            215                 220                 225

Gln Thr Leu Glu Glu Phe Val Val Ser Pro Cys Glu Arg Cys Arg
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Gln Thr Glu Cys Val Asp Pro Val Tyr Glu Pro Asp Gln Cys Cys
260 265 270

Pro Ile Cys Lys Asn Gly Pro Asn Cys Phe Ala Glu Thr Ala Val
275 280 285

Ile Pro Ala Gly Arg Glu Val Lys Thr Asp Glu Cys Thr Ile Cys
290 295 300

His Cys Thr Tyr Glu Glu Gly Thr Trp Arg Ile Glu Arg Gln Ala
305 310 315

Met Cys Thr Arg His Glu Cys Arg Gln Met
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<213> Artificial Sequence

<220>
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<212> DNA
<213> Homo sapiens

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gctgcatgta tctgataata cagaccctgt cctttca 1587

<210> 16
<211> 437
<212> PRT
<213> Homo sapiens

<400> 16

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             20                  25                  30

His Val Trp Lys Val Ser Asp Leu Pro Arg Gln Trp Thr Pro Lys
             35                  40                  45

Asn Thr Ser Cys Asp Ser Gly Leu Gly Cys Gln Asp Thr Leu Met
             50                  55                  60

Leu Ile Glu Ser Gly Pro Gln Val Ser Leu Val Leu Ser Lys Gly
             65                  70                  75

Cys Thr Glu Ala Lys Asp Gln Glu Pro Arg Val Thr Glu His Arg
             80                  85                  90

Met Gly Pro Gly Leu Ser Leu Ile Ser Tyr Thr Phe Val Cys Arg
             95                 100                 105

Gln Glu Asp Phe Cys Asn Asn Leu Val Asn Ser Leu Pro Leu Trp
            110                 115                 120

Ala Pro Gln Pro Pro Ala Asp Pro Gly Ser Leu Arg Cys Pro Val
            125                 130                 135

Cys Leu Ser Met Glu Gly Cys Leu Glu Gly Thr Thr Glu Glu Ile
            140                 145                 150

Cys Pro Lys Gly Thr Thr His Cys Tyr Asp Gly Leu Leu Arg Leu
            155                 160                 165

Arg Gly Gly Gly Ile Phe Ser Asn Leu Arg Val Gln Gly Cys Met
            170                 175                 180

Pro Gln Pro Gly Cys Asn Leu Leu Asn Gly Thr Gln Glu Ile Gly
            185                 190                 195

Pro Val Gly Met Thr Glu Asn Cys Asn Arg Lys Asp Phe Leu Thr
            200                 205                 210

Cys His Arg Gly Thr Thr Ile Met Thr His Gly Asn Leu Ala Gln
            215                 220                 225

Glu Pro Thr Asp Trp Thr Thr Ser Asn Thr Glu Met Cys Glu Val
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230 235 240

Gly Gln Val Cys Gln Glu Thr Leu Leu Leu Ile Asp Val Gly Leu
245 250 255

Thr Ser Thr Leu Val Gly Thr Lys Gly Cys Ser Thr Val Gly Ala
260 265 270

Gln Asn Ser Gln Lys Thr Thr Ile His Ser Ala Pro Pro Gly Val
275 280 285

Leu Val Ala Ser Tyr Thr His Phe Cys Ser Ser Asp Leu Cys Asn
290 295 300

Ser Ala Ser Ser Ser Ser Val Leu Leu Asn Ser Leu Pro Pro Gln
305 310 315

Ala Ala Pro Val Pro Gly Asp Arg Gln Cys Pro Thr Cys Val Gln
320 325 330

Pro Leu Gly Thr Cys Ser Ser Gly Ser Pro Arg Met Thr Cys Pro
335 340 345

Arg Gly Ala Thr His Cys Tyr Asp Gly Tyr Ile His Leu Ser Gly
350 355 360

Gly Gly Leu Ser Thr Lys Met Ser Ile Gln Gly Cys Val Ala Gln
365 370 375

Pro Ser Ser Phe Leu Leu Asn His Thr Arg Gln Ile Gly Ile Phe
380 385 390

Ser Ala Arg Glu Lys Arg Asp Val Gln Pro Pro Ala Ser Gln His
395 400 405

Glu Gly Gly Gly Ala Glu Gly Leu Glu Ser Leu Thr Trp Gly Val
410 415 420

Gly Leu Ala Leu Ala Pro Ala Leu Trp Trp Gly Val Val Cys Pro
425 430 435

Ser Cys

<210> 17
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<212> DNA
<213> Homo sapiens

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<210> 18
<211> 487
<212> PRT
<213> Homo sapiens

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Ala Ala Ala Leu Ala Ala Ala Leu Leu Ser Ser Leu Ala Arg Cys
                20   25   30

Ser Leu Leu Glu Pro Arg Asp Pro Val Ala Ser Ser Leu Ser Pro
                35   40   45

Tyr Phe Gly Thr Lys Thr Arg Tyr Glu Asp Val Asn Pro Val Leu
                50   55   60

Leu Ser Gly Pro Glu Ala Pro Trp Arg Asp Pro Glu Leu Leu Glu
                65   70   75

Gly Thr Cys Thr Pro Val Gln Leu Val Ala Leu Ile Arg His Gly
                80   85   90

Thr Arg Tyr Pro Thr Val Lys Gln Ile Arg Lys Leu Arg Gln Leu
                95   100   105

His Gly Leu Leu Gln Ala Arg Gly Ser Arg Asp Gly Gly Ala Ser

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                110                 115                 120

Ser Thr Gly Ser Arg Asp Leu Gly Ala Ala Leu Ala Asp Trp Pro
                125                 130                 135

Leu Trp Tyr Ala Asp Trp Met Asp Gly Gln Leu Val Glu Lys Gly
                140                 145                 150

Arg Gln Asp Met Arg Gln Leu Ala Leu Arg Leu Ala Ser Leu Phe
                155                 160                 165

Pro Ala Leu Phe Ser Arg Glu Asn Tyr Gly Arg Leu Arg Leu Ile
                170                 175                 180

Thr Ser Ser Lys His Arg Cys Met Asp Ser Ser Ala Ala Phe Leu
                185                 190                 195

Gln Gly Leu Trp Gln His Tyr His Pro Gly Leu Pro Pro Pro Asp
                200                 205                 210

Val Ala Asp Met Glu Phe Gly Pro Pro Thr Val Asn Asp Lys Leu
                215                 220                 225

Met Arg Phe Phe Asp His Cys Glu Lys Phe Leu Thr Glu Val Glu
                230                 235                 240

Lys Asn Ala Thr Ala Leu Tyr His Val Glu Ala Phe Lys Thr Gly
                245                 250                 255

Pro Glu Met Gln Asn Ile Leu Lys Lys Val Ala Ala Thr Leu Gln
                260                 265                 270

Val Pro Val Asn Asp Leu Asn Ala Asp Leu Ile Gln Val Ala Phe
                275                 280                 285

Phe Thr Cys Ser Phe Asp Leu Ala Ile Lys Gly Val Lys Ser Pro
                290                 295                 300

Trp Cys Asp Val Phe Asp Ile Asp Asp Ala Lys Val Leu Glu Tyr
                305                 310                 315

Leu Asn Asp Leu Lys Gln Tyr Trp Lys Arg Gly Tyr Gly Tyr Thr
                320                 325                 330

Ile Asn Ser Arg Ser Ser Cys Thr Leu Phe Gln Asp Ile Phe Gln
                335                 340                 345

His Leu Asp Lys Ala Val Glu Gln Lys Gln Arg Ser Gln Pro Ile
                350                 355                 360

Ser Ser Pro Val Ile Leu Gln Phe Gly His Ala Glu Thr Leu Leu
                365                 370                 375

Pro Leu Leu Ser Leu Met Gly Tyr Phe Lys Asp Lys Glu Pro Leu
                380                 385                 390

Thr Ala Tyr Asn Tyr Lys Lys Gln Met His Arg Lys Phe Arg Ser
                395                 400                 405
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Gly Leu Ile Val Pro Tyr Ala Ser Asn Leu Ile Phe Val Leu Tyr
410 415 420

His Cys Glu Asn Ala Lys Thr Pro Lys Glu Gln Phe Arg Val Gln
425 430 435

Met Leu Leu Asn Glu Lys Val Leu Pro Leu Ala Tyr Ser Gln Glu
440 445 450

Thr Val Ser Phe Tyr Glu Asp Leu Lys Asn His Tyr Lys Asp Ile
455 460 465

Leu Gln Ser Cys Gln Thr Ser Glu Glu Cys Glu Leu Ala Arg Ala
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Asn Ser Thr Ser Asp Glu Leu
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<210> 19
<211> 3554
<212> DNA
<213> Homo sapiens

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gcctttggat ggatgttgct gtacacagat gctacagact tgtactaaca 3500

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ccca 3554

<210> 20
<211> 310
<212> PRT
<213> Homo sapiens

<400> 20

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Ala Val Asn Leu Lys Ser Ser Asn Arg Thr Pro Val Val Gln Glu
            35                  40                  45

Phe Glu Ser Val Glu Leu Ser Cys Ile Ile Thr Asp Ser Gln Thr
            50                  55                  60

Ser Asp Pro Arg Ile Glu Trp Lys Lys Ile Gln Asp Glu Gln Thr
            65                  70                  75

Thr Tyr Val Phe Phe Asp Asn Lys Ile Gln Gly Asp Leu Ala Gly
            80                  85                  90

Arg Ala Glu Ile Leu Gly Lys Thr Ser Leu Lys Ile Trp Asn Val
            95                  100                 105

Thr Arg Arg Asp Ser Ala Leu Tyr Arg Cys Glu Val Val Ala Arg
           110                 115                 120

Asn Asp Arg Lys Glu Ile Asp Glu Ile Val Ile Glu Leu Thr Val
           125                 130                 135

Gln Val Lys Pro Val Thr Pro Val Cys Arg Val Pro Lys Ala Val
           140                 145                 150

Pro Val Gly Lys Met Ala Thr Leu His Cys Gln Glu Ser Glu Gly
           155                 160                 165

His Pro Arg Pro His Tyr Ser Trp Tyr Arg Asn Asp Val Pro Leu
           170                 175                 180

Pro Thr Asp Ser Arg Ala Asn Pro Arg Phe Arg Asn Ser Ser Phe
           185                 190                 195

His Leu Asn Ser Glu Thr Gly Thr Leu Val Phe Thr Ala Val His
           200                 205                 210

Lys Asp Asp Ser Gly Gln Tyr Tyr Cys Ile Ala Ser Asn Asp Ala
           215                 220                 225

Gly Ser Ala Arg Cys Glu Glu Gln Glu Met Glu Val Tyr Asp Leu
           230                 235                 240

Asn Ile Gly Gly Ile Ile Gly Gly Val Leu Val Val Leu Ala Val
           245                 250                 255

Leu Ala Leu Ile Thr Leu Gly Ile Cys Cys Ala Tyr Arg Arg Gly
           260                 265                 270

Tyr Phe Ile Asn Asn Lys Gln Asp Gly Glu Ser Tyr Lys Asn Pro
           275                 280                 285

Gly Lys Pro Asp Gly Val Asn Tyr Ile Arg Thr Asp Glu Glu Gly
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Asp Phe Arg His Lys Ser Ser Phe Val Ile
305 310

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<211> 3437
<212> DNA
<213> Homo sapiens

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gcggacacca gcgactcccg ggcgttggag aaccgagggg cggatgccag 2150

catggcctgc cggaagctgg cggtggcgca cccgctgctg ctgctcaggc 2200

acctgcccat gatcgcggcg ctcctgcacg gccgcaccca cctcaacttc 2250

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cgctgtggga ctgccttctg tccttcatcc gcctgctgct gaattacagg 2400

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ccataagtac attacctaca atgccccagc agccatctcc ttcctgcaga 2500

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<212> PRT
<213> Homo sapiens

<400> 22

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			20					25						30	
Ile	Trp	Phe	Pro	Glu	Glu	Lys	Pro	Leu	Pro	Thr	Ala	Phe	Leu	Val	
			35					40						45	
Asp	Thr	Ser	Glu	Glu	Ala	Leu	Leu	Leu	Pro	Asp	Trp	Leu	Lys	Leu	
			50					55						60	
Arg	Met	Ile	Arg	Ser	Glu	Val	Leu	Arg	Leu	Val	Asp	Ala	Ala	Leu	
			65					70						75	
Gln	Asp	Leu	Glu	Pro	Gln	Gln	Leu	Leu	Leu	Phe	Val	Gln	Ser	Phe	
			80					85						90	
Gly	Ile	Pro	Val	Ser	Ser	Met	Ser	Lys	Leu	Leu	Gln	Phe	Leu	Asp	
			95					100						105	

Gln Ala Val Ala His Asp Pro Gln Thr Leu Glu Gln Asn Ile Met
110 115 120

Asp Lys Asn Tyr Met Ala His Leu Val Glu Val Gln His Glu Arg
125 130 135

Gly Ala Ser Gly Gly Gln Thr Phe His Ser Leu Leu Thr Ala Ser
140 145 150

Leu Pro Pro Arg Arg Asp Ser Thr Glu Ala Pro Lys Pro Lys Ser
155 160 165

Ser Pro Glu Gln Pro Ile Gly Gln Gly Arg Ile Arg Val Gly Thr
170 175 180

Gln Leu Arg Val Leu Gly Pro Glu Asp Asp Leu Ala Gly Met Phe
185 190 195

Leu Gln Ile Phe Pro Leu Ser Pro Asp Pro Arg Trp Gln Ser Ser
200 205 210

Ser Pro Arg Pro Val Ala Leu Ala Leu Gln Gln Ala Leu Gly Gln
215 220 225

Glu Leu Ala Arg Val Val Gln Gly Ser Pro Glu Val Pro Gly Ile
230 235 240

Thr Val Arg Val Leu Gln Ala Leu Ala Thr Leu Leu Ser Ser Pro
245 250 255

His Gly Gly Ala Leu Val Met Ser Met His Arg Ser His Phe Leu
260 265 270

Ala Cys Pro Leu Leu Arg Gln Leu Cys Gln Tyr Gln Arg Cys Val
275 280 285

Pro Gln Asp Thr Gly Phe Ser Ser Leu Phe Leu Lys Val Leu Leu
290 295 300

Gln Met Leu Gln Trp Leu Asp Ser Pro Gly Val Glu Gly Gly Pro
305 310 315

Leu Arg Ala Gln Leu Arg Met Leu Ala Ser Gln Ala Ser Ala Gly
320 325 330

Arg Arg Leu Ser Asp Val Arg Gly Gly Leu Leu Arg Leu Ala Glu
335 340 345

Ala Leu Ala Phe Arg Gln Asp Leu Glu Val Val Ser Ser Thr Val
350 355 360

Arg Ala Val Ile Ala Thr Leu Arg Ser Gly Glu Gln Cys Ser Val
365 370 375

Glu Pro Asp Leu Ile Ser Lys Val Leu Gln Gly Leu Ile Glu Val
380 385 390

Arg Ser Pro His Leu Glu Glu Leu Leu Thr Ala Phe Phe Ser Ala

395 400 405

Thr Ala Asp Ala Ala Ser Pro Phe Pro Ala Cys Lys Pro Val Val
410 415 420

Val Val Ser Ser Leu Leu Leu Gln Glu Glu Glu Pro Leu Ala Gly
425 430 435

Gly Lys Pro Gly Ala Asp Gly Gly Ser Leu Glu Ala Val Arg Leu
440 445 450

Gly Pro Ser Ser Gly Leu Leu Val Asp Trp Leu Glu Met Leu Asp
455 460 465

Pro Glu Val Val Ser Ser Cys Pro Asp Leu Gln Leu Arg Leu Leu
470 475 480

Phe Ser Arg Arg Lys Gly Lys Gly Gln Ala Gln Val Pro Ser Phe
485 490 495

Arg Pro Tyr Leu Leu Thr Leu Phe Thr His Gln Ser Ser Trp Pro
500 505 510

Thr Leu His Gln Cys Ile Arg Val Leu Leu Gly Lys Ser Arg Glu
515 520 525

Gln Arg Phe Asp Pro Ser Ala Ser Leu Asp Phe Leu Trp Ala Cys
530 535 540

Ile His Val Pro Arg Ile Trp Gln Gly Arg Asp Gln Arg Thr Pro
545 550 555

Gln Lys Arg Arg Glu Glu Leu Val Leu Arg Val Gln Gly Pro Glu
560 565 570

Leu Ile Ser Leu Val Glu Leu Ile Leu Ala Glu Ala Glu Thr Arg
575 580 585

Ser Gln Asp Gly Asp Thr Ala Ala Cys Ser Leu Ile Gln Ala Arg
590 595 600

Leu Pro Leu Leu Leu Ser Cys Cys Cys Gly Asp Asp Glu Ser Val
605 610 615

Arg Lys Val Thr Glu His Leu Ser Gly Cys Ile Gln Gln Trp Gly
620 625 630

Asp Ser Val Leu Gly Arg Arg Cys Arg Asp Leu Leu Leu Gln Leu
635 640 645

Tyr Leu Gln Arg Pro Glu Leu Arg Val Pro Val Pro Glu Val Leu
650 655 660

Leu His Ser Glu Gly Ala Ala Ser Ser Ser Val Cys Lys Leu Asp
665 670 675

Gly Leu Ile His Arg Phe Ile Thr Leu Leu Ala Asp Thr Ser Asp
680 685 690

Ser Arg Ala Leu Glu Asn Arg Gly Ala Asp Ala Ser Met Ala Cys
695 700 705

Arg Lys Leu Ala Val Ala His Pro Leu Leu Leu Leu Arg His Leu
710 715 720

Pro Met Ile Ala Ala Leu Leu His Gly Arg Thr His Leu Asn Phe
725 730 735

Gln Glu Phe Arg Gln Gln Asn His Leu Ser Cys Phe Leu His Val
740 745 750

Leu Gly Leu Leu Glu Leu Leu Gln Pro His Val Phe Arg Ser Glu
755 760 765

His Gln Gly Ala Leu Trp Asp Cys Leu Leu Ser Phe Ile Arg Leu
770 775 780

Leu Leu Asn Tyr Arg Lys Ser Ser Arg His Leu Ala Ala Phe Ile
785 790 795

Asn Lys Phe Val Gln Phe Ile His Lys Tyr Ile Thr Tyr Asn Ala
800 805 810

Pro Ala Ala Ile Ser Phe Leu Gln Lys His Ala Asp Pro Leu His
815 820 825

Asp Leu Ser Phe Asp Asn Ser Asp Leu Val Met Leu Lys Ser Leu
830 835 840

Leu Ala Gly Leu Ser Leu Pro Ser Arg Asp Asp Arg Thr Asp Arg
845 850 855

Gly Leu Asp Glu Glu Gly Glu Glu Glu Ser Ser Ala Gly Ser Leu
860 865 870

Pro Leu Val Ser Val Ser Leu Phe Thr Pro Leu Thr Ala Ala Glu
875 880 885

Met Ala Pro Tyr Met Lys Arg Leu Ser Arg Gly Gln Thr Val Glu
890 895 900

Asp Leu Leu Glu Val Leu Ser Asp Ile Asp Glu Met Ser Arg Arg
905 910 915

Arg Pro Glu Ile Leu Ser Phe Phe Ser Thr Asn Leu Gln Arg Leu
920 925 930

Met Ser Ser Ala Glu Glu Cys Cys Arg Asn Leu Ala Phe Ser Leu
935 940 945

Ala Leu Arg Ser Met Gln Asn Ser Pro Ser Ile Ala Ala Ala Phe
950 955 960

Leu Pro Thr Phe Met Tyr Cys Leu Gly Ser Gln Asp Phe Glu Val
965 970 975

Val Gln Thr Ala Leu Arg Asn Leu Pro Glu Tyr Ala Leu Leu Cys

980 985 990

Gln Glu His Ala Ala Val Leu Leu His Arg Ala Phe Leu Val Gly
995 1000 1005

Met Tyr Gly Gln Met Asp Pro Ser Ala Gln Ile Ser Glu Ala Leu
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Arg Ile Leu His Met Glu Ala Val Met
1025

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<211> 2186
<212> DNA
<213> Homo sapiens

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cgccttcctc tcgctgtcct ggtacgcggc actcagcggc cagaaaggcg 150

acgttgtgga cgtttaccag cgggagttcc tggcgctgcg cgatcggttg 200

cacgcagctg agcaggagag cctcaagcgc tccaaggagc tcaacctggt 250

gctggacgag atcaagaggg ccgtgtcaga aaggcaggcg ctgcgagacg 300

gagacggcaa tcgcacctgg ggccgcctaa cagaggaccc ccgattgaag 350

ccgtggaacg gctcacaccg gcacgtgctg cacctgccca ccgtcttcca 400

tcacctgcca cacctgctgg ccaaggagag cagtctgcag cccgcggtgc 450

gcgtgggcca gggccgcacc ggagtgtcgg tggtgatggg catcccgagc 500

gtgcggcgcg aggtgcactc gtacctgact gacactctgc actcgctcat 550

ctccgagctg agcccgcagg agaaggagga ctcggtcatc gtggtgctga 600

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gccttgttcc ccacggagat ccattctggg ctcctggagg tcatctcacc 700

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20 25 30

Gln Lys Gly Asp Val Val Asp Val Tyr Gln Arg Glu Phe Leu Ala
35 40 45

Leu Arg Asp Arg Leu His Ala Ala Glu Gln Glu Ser Leu Lys Arg
50 55 60

Ser Lys Glu Leu Asn Leu Val Leu Asp Glu Ile Lys Arg Ala Val
65 70 75

Ser Glu Arg Gln Ala Leu Arg Asp Gly Asp Gly Asn Arg Thr Trp
80 85 90

Gly Arg Leu Thr Glu Asp Pro Arg Leu Lys Pro Trp Asn Gly Ser
95 100 105

His Arg His Val Leu His Leu Pro Thr Val Phe His His Leu Pro
110 115 120

His Leu Leu Ala Lys Glu Ser Ser Leu Gln Pro Ala Val Arg Val
125 130 135

Gly Gln Gly Arg Thr Gly Val Ser Val Val Met Gly Ile Pro Ser
140 145 150

Val Arg Arg Glu Val His Ser Tyr Leu Thr Asp Thr Leu His Ser
155 160 165

Leu Ile Ser Glu Leu Ser Pro Gln Glu Lys Glu Asp Ser Val Ile
170 175 180

Val Val Leu Ile Ala Glu Thr Asp Ser Gln Tyr Thr Ser Ala Val
185 190 195

Thr Glu Asn Ile Lys Ala Leu Phe Pro Thr Glu Ile His Ser Gly
200 205 210

Leu Leu Glu Val Ile Ser Pro Ser Pro His Phe Tyr Pro Asp Phe
215 220 225

Ser Arg Leu Arg Glu Ser Phe Gly Asp Pro Lys Glu Arg Val Arg
230 235 240

Trp Arg Thr Lys Gln Asn Leu Asp Tyr Cys Phe Leu Met Met Tyr
245 250 255

Ala Gln Ser Lys Gly Ile Tyr Tyr Val Gln Leu Glu Asp Asp Ile
260 265 270

Val Ala Lys Pro Asn Tyr Leu Ser Thr Met Lys Asn Phe Ala Leu
275 280 285

Gln Gln Pro Ser Glu Asp Trp Met Ile Leu Glu Phe Ser Gln Leu
290 295 300

Gly Phe Ile Gly Lys Met Phe Lys Ser Leu Asp Leu Ser Leu Ile
305 310 315

Val Glu Phe Ile Leu Met Phe Tyr Arg Asp Lys Pro Ile Asp Trp

320 325 330

Leu Leu Asp His Ile Leu Trp Val Lys Val Cys Asn Pro Glu Lys
335 340 345

Asp Ala Lys His Cys Asp Arg Gln Lys Ala Asn Leu Arg Ile Arg
350 355 360

Phe Lys Pro Ser Leu Phe Gln His Val Gly Thr His Ser Ser Leu
365 370 375

Ala Gly Lys Ile Gln Lys Leu Lys Asp Lys Asp Phe Gly Lys Gln
380 385 390

Ala Leu Arg Lys Glu His Val Asn Pro Pro Ala Glu Val Ser Thr
395 400 405

Ser Leu Lys Thr Tyr Gln His Phe Thr Leu Glu Lys Ala Tyr Leu
410 415 420

Arg Glu Asp Phe Phe Trp Ala Phe Thr Pro Ala Ala Gly Asp Phe
425 430 435

Ile Arg Phe Arg Phe Phe Gln Pro Leu Arg Leu Glu Arg Phe Phe
440 445 450

Phe Arg Ser Gly Asn Ile Glu His Pro Glu Asp Lys Leu Phe Asn
455 460 465

Thr Ser Val Glu Val Leu Pro Phe Asp Asn Pro Gln Ser Asp Lys
470 475 480

Glu Ala Leu Gln Glu Gly Arg Thr Ala Thr Leu Arg Tyr Pro Arg
485 490 495

Ser Pro Asp Gly Tyr Leu Gln Ile Gly Ser Phe Tyr Lys Gly Val
500 505 510

Ala Glu Gly Glu Val Asp Pro Ala Phe Gly Pro Leu Glu Ala Leu
515 520 525

Arg Leu Ser Ile Gln Thr Asp Ser Pro Val Trp Val Ile Leu Ser
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Glu Ile Phe Leu Lys Lys Ala Asp
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<223> Synthetic Oligonucleotide Probe

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<223> Synthetic Oligonucleotide Probe

<400> 27
actcgggatt cctgctgtt 19

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aggcctttac ccaaggccac aac 23

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<400> 29
ggcctgtcct gtgttctca 19

<210> 30
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<223> Synthetic Oligonucleotide Probe

<400> 30
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<400> 31
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<400> 32
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<223> Synthetic Oligonucleotide Probe

<400> 33
gtccagcaag ccctcatt 18

<210> 34
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<223> Synthetic Oligonucleotide Probe

<400> 34
cttctgggcc acagccctgc 20

<210> 35
<211> 21
<212> DNA
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<223> Synthetic Oligonucleotide Probe

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<210> 36
<211> 19
<212> DNA
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<223> Synthetic Oligonucleotide Probe

<400> 36
ccagtcaggc cgttttaga 19

<210> 37
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<220>
<223> Synthetic Oligonucleotide Probe

<400> 37
cgggcgccca agtaaaagct c 21

<210> 38
<211> 28
<212> DNA
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<223> Synthetic Oligonucleotide Probe

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